

Asthma
Surveillance Report



January-March
2011

Seven Steps to Creating an Asthma Friendly School

1. Identify students with asthma
2. Allow students easy access to their inhalers
3. Create a school wide protocol for handling an asthma episode
4. Identify and reduce common asthma triggers
5. Enable students with asthma to participate in activities
6. Educate staff, parents and students about asthma
7. Collaborate with families, students, staff and healthcare providers

Source: MACP 'Creating Asthma Friendly School in Montana' Resource Guide

Asthma Among High School Students

Asthma in the School Setting

Asthma is one of the most common chronic diseases among school aged children and is a leading cause of school absenteeism, accounting for 10.5 million missed school days in the US in 2008.¹ The Montana Asthma Control Program's (MACP) "Creating Asthma Friendly Schools in Montana" Initiative aims to provide free resources and training to all Montana school staff on effective strategies to control asthma in the school environment. The initiative focuses on 7 simple policies and practices that schools can implement to help students with asthma succeed (See left panel).

The MACP recently launched a new website with free resources for school staff and childcare providers on asthma:

www.asthmamontana.com. All school staff and parents are invited to visit the website and watch a video of Montana students with asthma as well as participate in free, accredited training using the "Creating Asthma Friendly School in Montana" resource guide. Training for coaches on exercise induced asthma is also available free of charge at this site. In addition, school nurses can access information on applying for mini-grants that provide \$500-\$1500 to nurses willing to implement evidence based asthma activities in their school buildings.

Quantifying Asthma Among High School Students in Montana

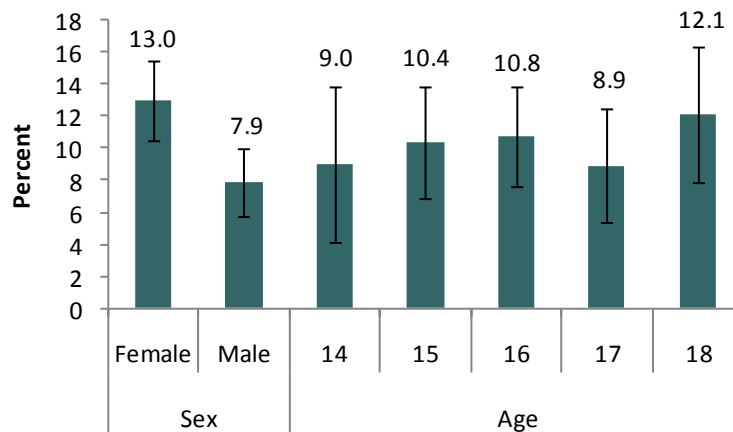
The Youth Risk Behavior Survey (YRBS) is conducted every two years in selected high schools around the nation including Montana. The survey asks a variety of questions on health risk behaviors including nutrition and exercise, injury, sexual health, and tobacco and drug use. The data are weighted to represent all high school students in the state. Two questions are asked about occurrence of asthma, 'Has a doctor or nurse ever told you that you have asthma?' and 'Do you still have asthma?' Respondents reporting they currently have asthma were included in this report.

The Montana Asthma Call-back Survey is a telephone survey of non-institutionalized adults aged 18 and over. Participants are recruited from the Behavioral Risk Factor Surveillance System survey if they indicate that they either had or currently have asthma. A child is also randomly selected from the household and the parent or guardian responds to a selection of the questions on their behalf. These individuals (or their parent or guardian) are then called again and asked more in-depth questions about their experience with asthma. Montana has participated in this call-back survey, funded by the Centers for Disease Control and Prevention, annually since 2006. For this report, only responses for people aged 14 to 18 were included.

Asthma prevalence among Montana high school students

- In 2009, the overall prevalence of lifetime asthma among high school students was 19.5% (95% Confidence interval (CI) 17.0%-21.9%). The prevalence of current asthma was 10.4% (95% CI 8.7%-12.0%) (Data not shown).
- An estimated 4,600 high school students in Montana have current asthma (Data not shown).
- High school girls have a significantly higher prevalence of asthma than do high school boys (Figure 1).
- There is no statistical difference in the prevalence of asthma by age (Figure 1) or grade (Data not shown).

Figure 1. Current asthma prevalence by sex and age of high school students, YRBS, 2009, Montana



An estimated 2,300 days of school are missed each year by youth aged 14-18 due to asthma in Montana

Source: Asthma Call-back Survey, 2006-2009

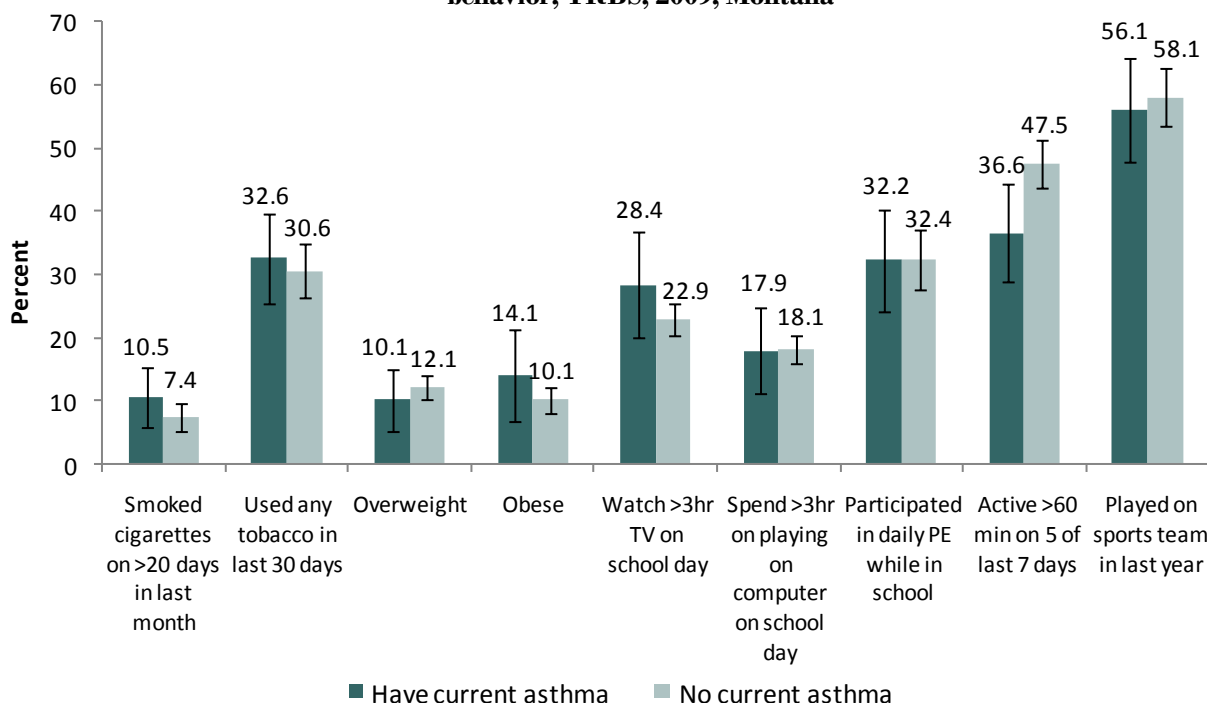
Health behaviors of high school students with and without asthma

Health behaviors, like smoking², obesity³, and exercise are linked to the occurrence of asthma exacerbations. Referring patients to smoking cessation resources like the Montana Quitline and teaching people how to control their asthma while exercising may decrease the chance of an exacerbation.

Promoting an active lifestyle and healthy nutrition options for patients with asthma can help them avoid the health complications associated with being overweight and obese.

- Nearly a third of students with current asthma report using tobacco in the last 30 days (Figure 2).
- While a higher percent of students with no current asthma were active for more than 60 minutes on 5 of the last 7 days than were students with current asthma, students with asthma were as likely to play on a sports team as students without asthma (Figure 2).

Figure 2. Percent of high school students with and without current asthma by behavior, YRBS, 2009, Montana

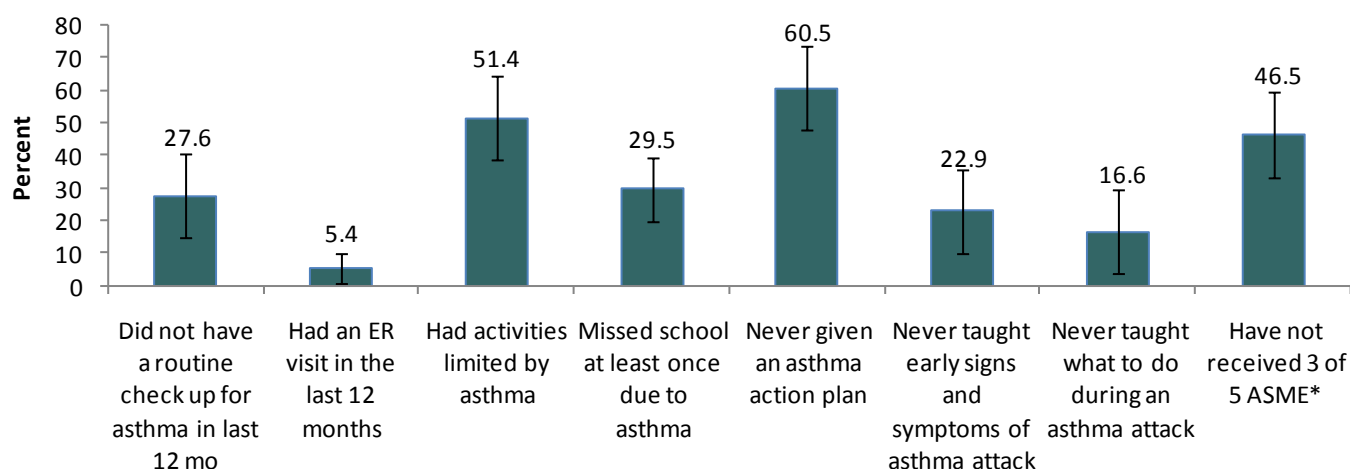


Experiences with asthma among high school students

The EPR-3 clinical asthma guidelines⁴ make several recommendations for routine care and education for people living with asthma. These include having a visit with a health care provider twice a year for a routine check up for asthma and being counseled at every visit on inhaler technique, signs and symptoms of asthma, and what to do during an asthma attack. A person with asthma should also have an asthma action plan updated at every visit with their health care provider. With proper medication prescription and use, early recognition of symptoms of asthma, and knowledge of how to respond to asthma symptoms, a person should live with well controlled asthma and not experience limitations in their daily activities. In Montana, there is room for improvement of the provision of self-management education to high school aged students with asthma:

- One in four high school aged students with asthma did not have a routine checkup in the last 12 months (Figure 3).
- Five percent of high school aged students with asthma had an ER visit for their asthma in the last 12 months.
- Half of high school aged students report having their activities limited at least a little because of asthma.
- Nearly two-thirds of high school aged students report never having been given an asthma action plan.
- About one in five high school aged students report never having been taught the early signs and symptoms of an asthma attack.

Figure 3. Percent of reported experiences with current asthma among youth aged 14-18, Asthma Call Back Survey, 2006-2009, Montana



* Asthma Self Management Education: 1) taught early signs and symptoms of asthma attack, 2) taught what to do during an asthma attack, 3) given an asthma action plan, 4) taught how to use a peak flow meter to adjust medication, 5) taken a class on asthma management.

Discussion and Key Clinical Recommendations

About one in ten high school students report having current asthma. Asthma is a controllable disease that when well managed, should not limit activities or cause troublesome symptoms. However, about half of high school students report asthma limiting their activities and about 30 percent report missing at least one day of school in the last year due to asthma. Furthermore, asthma symptoms are linked to tobacco smoke and obesity. By encouraging high school aged students to maintain healthy behaviors and take control of their asthma, the number of emergency department visits and severe asthma exacerbations in Montana could be reduced. For your patients with asthma consider:

- Encouraging patients aged 14-18 to schedule a routine visit for their asthma.
- Counseling high school aged asthma patients on the importance of avoiding tobacco and participating in daily exercise.
- Providing asthma self-management education on inhaler technique, what to do during an asthma attack, as well as the signs and symptoms of asthma. Update a patient's asthma action plan at every visit.
- Ensure that patients are informed of the self-carry law in Montana and have the proper paperwork on file at their school to allow them to self-carry and administer their asthma medications while at school.
- Contact the Montana Asthma Control Program at 405-444-7304 or visit www.asthmamontana.com for more information.

Footnotes

1. Akinbami LJ *et. al.* Asthma Prevalence, Health Care Use, and Mortality: United States, 2005-2009. January 12, 2011, Number 32. Hyattsville, MD: National Center for Health Statistics Reports.
2. Institute of Medicine. "Clearing the air: Asthma and Indoor Air Exposures". Washington DC: National Academy Press. 2000. Print.
3. Sin D, Sutherland E. Obesity and the lung; 4. Obesity and Asthma. *Thorax*. 2008; 63:1018-23.
4. National Heart Lung and Blood Institute (US). Expert Panel Review-3 Guidelines to Asthma Management. National Institutes of Health (US); 2007 Aug. NIH Pub. Available at: <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>

For more information, visit the Asthma Control Program website: <http://dphhs.mt.gov/asthma>



Attn: Katie Loveland Asthma Control
PO Box 202951
Helena, MT 59620
69670



Asthma Among Montana High School Students



LOOK INSIDE FOR INFORMATION ON:

- Asthma prevalence and reported asthma symptoms among high school students in Montana
- Health behaviors of high school students with asthma in Montana
- Asthma friendly school policies addressing asthma in high school aged students

The Montana Asthma Control Program is funded through the Montana State Legislature and the Centers for Disease Control and Prevention. The goal of the program is to improve the quality of life for all Montanans with asthma. For more information, visit our website at <http://dphhs.mt.gov/asthma>

Katie Loveland, MPH, MSW
Program Manager
kl Loveland@mt.gov
406-444-7304

Jessie Frazier, MPH, CPH
Epidemiologist
jfrazier@mt.gov
406-444-9155

Carolyn Linden
Administrative Assistant
clinden2@mt.gov
406-444-5946

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